

Application for United States Patent

of

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for

5 System and Method for Interactive Offer System

CROSS-REFERENCE TO RELATED APPLICATIONS

(CLAIMING BENEFIT UNDER 35 U.S.C. 120)

None.

10 FEDERALLY SPONSORED RESEARCH
AND DEVELOPMENT STATEMENT

This invention was not developed in conjunction with any Federally sponsored
contract.

MICROFICHE APPENDIX

15 Not applicable.

INCORPORATION BY REFERENCE

None.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to electronic commerce and more particularly to conducting an interactive offer and bid collection over a computer network.

Description of the Related Art

Prior to the advent of electronic auctioning over computer networks or electronic commerce, auctions were held in a group of gathered bidders with an auctioneer. As shown in Figure 1, an auction (1) is conducted on behalf of a seller (2) by an auctioneer (4). The auctioneer receives a list of items to be sold and possibly a minimum and/or reserve price for those items. During the auction, a plurality of bidders (6) place bids (5) under the guidance and control of the auctioneer (4). In some cases, multiple bidders (9) may pool (8) their bids, and the pooled bids (7) are submitted as a single bid with a combined quantity to the auctioneer (4).

The auctioneer enforces the rules of the auction, such as minimum bid price and quantities, minimum bid incrementing from the previous bid for a new bid, and time limits for placing bids. Auction bidders are typically qualified as to their ability to complete the purchase should their bid be the winning bid prior to entering the auction room.

Many online auctioning systems such as "priceline.com" and "mercata.com" have become very popular for individuals and businesses to use to take advantage of

auctions at which they cannot be physically present. Such e-commerce auctions or online auctions are usually conducted over a specified period of time of opening and closing for bids, and are typically conducted under one of several well-known sets of rules or models. These common models include "Dutch" auctions, progressive 5 auctions, "Yankee" auctions, single-bid auction, sealed bid auctions, reserve auctions, and hybrids of these types of auctions..

However, most sales offering and bid systems conducted by manufacturers of goods or service providers are conducted under a different set of procedures and processes. Turning to Figure 2, a typical trader and broker system for offering and 10 accepting bids is shown (20). In such a business-to-business ("B2B") offering and bidding process (20), a manufacturer or service provider (21) will notify one or more traders (24) of available products or services, quantities, and minimum acceptable bid values (22). The trader then provides offerings (23') to one or more brokers (25), to which the brokers may respond with bids (23).

15 In some cases, bids may be accepted for either partial lots or whole lots of offered products. These offerings (23') and the corresponding bids (23) are collected by the trader, and the trader (24) makes a decision of which bids to accept. The traders (24) subsequently respond to the manufacturer or service provider (21) with actual orders or purchases (22).

20 Although the B2B offering and bid acceptance process may be conducted similarly to an auction, it is not an auction in the strict sense in that the order fulfillment, or bid acceptance, process is conducted usually by the trader at his

discretion. For example, under a typical auction process, the highest qualified bidder may be defined as the bid winner. However, in a B2B offering and bid collection system, the trader may favor the second or third highest bid over the highest bid for the fact that the broker placing the second or third highest bid has preferred business arrangements, such as a longer history of purchasing from the trader or a history of larger volume purchases with the trader.

Brokers typically buy on speculation, and sell to end users. Brokers may sell to multiple retailers of products or services, or they may represent a single large retailer of a product or service.

10 Traders are typically commissioned sales professionals, and the structure of their commissions may vary depending on the quantities and the commodities or category of products being sold.

According to industry terminology, "Reseller Master Agreements" usually govern what a broker may purchase, which are enforced by the individual traders. For 15 example, a particular broker may only have rights to purchase given commodities or categories of products within a certain geographical zone or region as defined by his Reseller Master Agreement with the manufacturer or service provider.

Further, traders may be restricted to handling specific commodities or categories of products and also may be restricted to certain localities. For example, a 20 trader may specialize in furniture from a particular manufacturer, and may not be authorized to handle carpets or other textiles from the same manufacturer. This trader's expertise in furniture allows him to focus his knowledge and understanding

into the market place for furniture. A trader may also be restricted as to the locality or geographical region in which his brokers may purchase goods, such as Europe, North America, or even more specific such as a particular state or city.

Thus, a particular broker may receive offers from multiple traders who
5 represent a particular manufacturer or service provider. For example, a broker that represents a chain of computer stores may receive computer memory offers from a first broker, software upgrade offers from a second broker, and peripheral offers from yet a third broker, all of whom represent the same manufacturer. In response, this broker may bid for products or services in different categories, and must submit those
10 bids to different traders based on the traders' commodities or categories of products that each trader handles.

As such, it is desirable not to present information to the traders or brokers which is irrelevant to the products or commodities for which they are entitled to purchase under their Reseller Master Agreement. For example, certain brokers and
15 traders may be associated with geographical regions which are not allowed to receive certain products or services from the manufacturer because of regulatory or export controls. Additionally, certain contractual restrictions between the manufacturer and the trader or other traders and other brokers may establish territorial boundaries regarding products and services handled by the brokers and traders. Further, even
20 though a broker may be entitled to receive offers for a particular product or service, it may not be desirable to indicate to that broker the total quantity available from the

manufacturer, as having this knowledge may not encourage the broker to place his highest possible bid for the product or service.

Therefore, the available online auctioning systems are not appropriate in such B2B offering and bid collection systems. First, the available online auctioning 5 systems represent a full auction under which certain rules dictate which bids will be automatically accepted so the system provides offering of available quantities, bid collection, bid rule enforcement, bid fulfillment, and bid acceptance functions under the rules of the auction. But, as previously discussed, B2B offerings and bid collections are not executed under such strict rules. Further, the available online 10 auction systems are particularly adapted to placement of orders by multiples of bidders or pooled bidders, and do not favor the traditional interaction between traders and brokers. And, most online auctioning systems provide information as to last top bid ("bid to beat") and total quantities of goods available.

As such, the available online auction systems do not allow for the restriction 15 and filtering of information which is conveyed from the offering party to the offered party to eliminate the presentation of information which is not relevant to the offered party's Reseller Master Agreement. This may not protect the confidentiality of total quantities available from the offering party, and may compromise the ability of the offering party to obtain the best possible bids for the goods offered.

20 Therefore, there is a need in the art for an online business-to-business offering and bid collection system which is suitable for offering manufactured goods and/or services to potential purchasers or brokers. There is a need in the art for this system

to provide for filtering or restriction of information about the offered good to such potential purchasers or brokers such that confidentiality requirements, regulatory and territorial requirements can be met.

- Additionally, there is a need in the art for this system to be robust, dependable,
5 secure, and adaptable for use with a wide array of manufactured goods such as
electronics, consumer products, clothing and textiles, other large volume purchase
goods, as well as real-time traded commodities such as electric power, water, and
telecommunications and data communications bandwidth.

BRIEF DESCRIPTION OF THE DRAWINGS

The following detailed description when taken in conjunction with the figures presented herein provide a complete disclosure of the invention.

5 FIGURE 1 discloses the well-known arrangement of sellers, auctioneers, and bidders.

FIGURE 2 shows the common business arrangement between manufacturers, service providers, traders, and brokers.

10 FIGURE 3 shows the structure of offerings under the preferred embodiment.

FIGURE 4 shows a broker profile matrix.

FIGURE 5 shows a generalized system architecture of the invention.

FIGURE 6 sets forth the preferred embodiment of the system of the invention.

FIGURE 7 illustrates the logical flow of the process of broker offer presentations and bid collection.

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SUMMARY OF THE INVENTION

In order to address the aforementioned needs in the art, the present invention provides a networked computer arrangement and method in which a manufacturer or service provider may communicate to a plurality of traders the goods or services 5 which may be available, the quantities of those available goods, and any other conditions to be met by bidders or brokers.

Throughout the disclosure given herein and the following claims, the term "broker" is used to describe a bidding party or bidder, and the term "trader" is used to describe a party who conducts the process of promoting offers to bidding parties. 10 This is nearly analogous to bidder and auctioneer in the context of a traditional auction, respectively, although the offering and bidding process provided by the invention may be used to conduct business-to-business offers as well as traditional types of auctions.

The system and method allows the traders to apply broker profiles or 15 entitlement schema to those available goods lists to produce offerings for a plurality of bidders or brokers. Typically, the broker profiles or entitlement schema are based on the contractual arrangement between the brokers, the traders, and the manufacturer or service provider.

The system and method presents the prepared offerings to the brokers, who 20 may submit bids in response to the offerings. The system and method allows the trader to review the collected bids from the broker, and to advance those bids for

acceptance either through another order fulfillment system, or through manual confirmation of acceptance of the bid.

The system is particularly well-adapted for use over the Internet, intranets, and extranets, by allowing common computer web browsers, network terminals, and 5 wireless web browsers to be used as the offering and bidding consoles by the traders and brokers, respectively, and by allowing the manufacturer or service provider to produce the lists of available products or services using common web technologies.

Specific offerings of materials or services are characterized by a location and product category pair of parameters. Brokers are assigned profiles of one or more 10 location and category parameter pairs for which they are entitled to receive offers and on which they are entitled to bid.

The system provides the ability for the trader to retrieve lists of available items and their offering parameters from the manufacturer or service provider, and to produce offerings for view by their brokers. The brokers may retrieve their offerings 15 from the system and may respond with independent bids. The independent bids are collected by the system and made available to the trader for review and subsequent acceptance.

DETAILED DESCRIPTION OF THE INVENTION

The present method and system is preferably realized in a plurality of networked computers, including computer network terminals or consoles, networked database application servers, web servers, and a computer network.. The computer network consoles employed are any suitable device for accessing remote application services over a computer network, including, but not limited to, personal computer-based web browsers, wireless web browsers such as web-enabled wireless telephones and personal digital assistants ("PDA"), Internet appliances, as well as dedicated computer terminals. The database application servers employable in the invention may be any of a wide array of available database application servers, including, but not limited to, IBM Lotus Notes servers, Oracle servers, etc. The web servers incorporated into the invention may be any suitable platform, including, but not limited to, IBM's Web Sphere product, Apache Hyper Text Transfer Protocol ("HTTP") servers, secure HTTP servers ("HTTPS"), and the like. The computer network may include the Internet, intranets, extranets, dedicated networks such as local area networks ("LAN") and wide area networks ("WAN"), wireless data networks, and/or any other suitable computer and data communications network. Communications means between database application servers, computer network consoles, and web servers may include any suitable data communications protocols and media including, but not limited to, dial-up modems over telephone lines, wireless data transceivers, cable modems, Digital Subscriber Lines ("DSL"), and dedicated data communication lines.

It will be recognized by those skilled in the art that certain combinations and intergrations of the features presented herein may be made without departing from the spirit and scope of the invention. Further, it will be recognized that many of the architectural details disclosed herein are disclosed under the inventor's preferred embodiment in order to enhance the robustness and reliability of the invention, but these details may not be necessary to realize the fundamental functionality of the invention.

Turning to FIGURE 3, broker offerings (30) are comprised of one or more sets of materials (or services) associated with location and category code pairs. Typically, locations are related to geographical zones or regions such as countries, continents, or sales regions. Categories are typically related to products, product lines, or services such as computers, hard drives, monitors, minutes of long-distance, megabytes of transmission or other types of services and products. As such, an offering (30) which is presented to a broker contains only materials or services which are being made available to that broker for which the location and category code meet his broker profile. And, the offering may include materials for a combination of brokers. For example as shown in FIGURE 3, an offering to a European broker may be comprised of a first material code pair such as location=Europe, and category=power supply, (31). It may also additional materials with associated location and category pairs, such as location=Europe and category=computer_monitor, and location=Germany and category=Deutsche_AIX_operating system.

A broker profile matrix is disclosed in FIGURE 4. For each broker, a broker profile matrix is defined, which is a two-dimensional table for location and category in this preferred embodiment. It will be recognized, however, by those skilled in the art that such a broker profile matrix may be multidimensional beyond the

5 two-dimensional example shown, or single dimensional. In this example of FIGURE 4, the locations are indexed against the plurality of categories, and then a logical enabler, such as a Boolean flag, is recorded for each combination of location and category pairs. A profile matrix defines the "entitlement" for a particular broker.

Available products or services which match the location-category parameter pairs in a

10 broker's entitlement profile matrix are made available to that broker, and products and services which do not meet the parameters of the profile matrix are not presented for bidding to that broker. For example in FIGURE 4, the completed profile matrix for a hypothetical broker defines that the broker is entitled to receive in offerings for category _1 products in location_1 and location_3, and for category_2 products only

15 in location_1, and for category_Y products only in location_1. The hypothetical broker of this example is not authorized or entitled to receive offerings for any other location-category parameter pair.

Turning to FIGURE 5 in which the general architecture of the system of the invention is shown, the Interactive Offer Server ("IOS") (51) is associated with an

20 offering database (52). The offering system (50) is included in the larger architecture (59) which includes the brokers' consoles (58), the administrator console (56), and the traders' consoles (54). All consoles and the interactive offering server may

communicate either as an integrated package within one computer system, or as separate computer systems integrated and communicating over a computer network such as the internet.

In the general architecture of FIGURE 5, the manufacturer or service provider's goods availability list (55) is received by the trader consoles (54). The trader then creates proposed offerings by filtering the availability list against the broker profile matrices (40) for his broker(s). Those proposed offerings are input into the offering data base (52), which are then retrieved by the administrator using his administrator console (56).

The administrator then authorizes the proposed offerings and makes a note or change in the offering data base records to indicate such authorization.

During the open bidding process, the brokers may use their consoles, such as web browser personal computers (58), to retrieve their offerings, and to submit bids via the IOS (51). When a broker makes contact with the interactive offering server, his identity is first verified by an Authentication Server (57), according to the preferred embodiment.

In response to the broker's request for products or services offerings, the IOS queries the offering database (52) and presents the broker with offerings which contain items to which he or she is entitled. An authentication server (57) is included in the preferred embodiment so as to allow the interactive offering server to authenticate the broker prior to presenting any offerings to the broker. As such, the general architecture (59) as shown in FIGURE 5 provides each broker with one or

more offerings which have been authorized and which have been filtered only to show available materials or services on which he is entitled to bid.

Turning to FIGURE 6, the detailed organization of the system according to the preferred embodiment is shown. According to the preferred embodiment, a sales preparation system (60) comprising an IBM Lotus Notes system provides available materials list to the traders via their trader consoles (61), which are networked personal computers also running Lotus Notes applications. These available materials lists could alternatively be simple text file lists or spreadsheets, as well as data base records. Alternatively, the trader consoles (61) may be dedicated computer consoles, web browser computers, or other appropriate computer user interface devices such as wireless web browsers.

The trader console then filters the available materials list for each broker profile or entitlement schema for the trader's brokers, and prepares proposed broker offerings to be stored in the IOS production server (62). The entitlement profile or broker profile (63) is also available to the IOS production server (62) for verification of the trader's proposed offerings.

An administrator may use an administrator's console (64) to query the database of the IOS production server (62) to retrieve and review a trader's proposed offerings. He may authorize all or some of the proposed offerings, and place those authorized offerings in the IOS database for replication to the IOS staging server (65).

Posting of the authorized offerings to the IOS staging server (65) is preferably done by a Lotus Notes replicator function. As both the IOS production server (62)

and staging server (65) are based on IBM Lotus Notes systems in the preferred embodiment, the replicator is a natural function of Lotus Notes which is easily incorporated and maintained. An IBM Lotus Enterprise Integrator ("LEI"), formerly known as "Notes Pump", then prepares a DB2 database file (66) from the IOS staging 5 server (65).

Further according to the preferred embodiment, all of these previously described systems and components and processes are executed and placed behind a protective data "fire wall" (603) for system security. The posted available offerings for the brokers are replicated to another database outside the firewall, preferably in a 10 DB2 format (67) again. This "outside" database is available for query by at least one application server (68).

Further according to the preferred embodiment, a clustered pair of application servers (68) are used to query the outside database (67) for available offerings for brokers. The application servers are provided requests from the brokers via network 15 dispatchers (69). The network dispatchers (69) receive broker requests for offerings by a proxy server (600). Thus, the brokers may use their broker consoles (602), such as web browser personal computers or wireless web browsers, to query the outside database (67) via a computer network (601) such as the Internet.

The network dispatchers provide balanced loading to the application servers 20 (68), and they provide for redirection of requests to one of the application servers should the other application server experience a failure. After the brokers receive

their offerings of entitled materials or services on which they may bid via their broker consoles (602), they may post bids which are stored in the outside data base (67).

The posted bids are then replicated from the outside database (67) to the inside database (66) behind the firewall. The LEI then moves those bids, converts them
5 from DB2 format to Lotus Notes format, and stores them in the IOS staging server (65). These bids are further replicated from the Lotus Notes format in the IOS staging server (65) to the IOS production server (62), where they then may be retrieved and reviewed by the traders using the trader consoles (61). Thus, the entire offering-to-bid process is completed. The traders may then choose to accept or reject
10 each posted bid.

According to the preferred embodiment, the application servers (68) are web server hardware platforms, such as IBM RS6000 computers running the IBM AIX operating system, accompanied by the IBM WebSphere product. Java servlets are used to interact with the broker console computers (602), which could be alternately
15 realized in such technology as Microsoft's Active Server Pages or Java server pages.

Further according to the preferred embodiment, the application servers are provided with communications capability to an authentication server (57) which may include lists of brokers and passwords against which broker log-in attempts may be validated.

20 Thus, the system and methods disclosed including the preferred embodiment provide a capability to prepare offerings for brokers from traders such that the offerings contain only the information necessary to convey an offering to a broker for

product or service for which he is entitled. The preferred embodiment provides a robust and secure architecture to insure that product offerings are made available only to entitled brokers, and that system failure will not result in loss of availability of offering and bidding collection services.

5 Turning to FIGURE 7, the logical flow of the process followed by a broker and a system is shown. According to the preferred embodiment, the broker first logs on to the system (70) followed by an authentication of his log on (71). If this authentication fails, he may request a broker ID (72) which will be established for him.

10 If his authentication passes, then a check for his entitlements (73) may be made. If he is not currently entitled to receive any offerings, he may request an entitlement (74), according to the preferred embodiment.

Otherwise, the IOS database is queried for offerings for materials or services to which the broker is entitled (75). Times available for open bidding, reserved prices, and other related general parameters to offerings (76) may be consulted prior to presenting offerings to a broker in order to avoid presenting offerings which are already expired or closed. Each offering provided to the broker may include a plurality of materials, each material being characterized by a location-category parameter pair which matches a location-category definition in the broker's profile matrix.

20 The entitled offerings are displayed (77) to the broker so that he may review offerings, and he may make one or more bids in response to those offerings. Those

bids are then collected (78) and stored for later review by the trader using the trader console.

It will be understood by those skilled in the art and from the foregoing description that various modifications and changes may be made in the preferred 5 embodiment of the present invention without departing from its spirit and scope. It is intended that this description is for purposes of illustration only and should not be construed in a limiting sense. The scope of this invention should be defined by the following claims.